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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/604,108
Filing Date: June 26, 2003
Appellant(s): DOWNEY ET AL.

MAILED

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Technology Center 2600

Kenneth Altshuler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 05/16/2007 appealing from the Office action mailed 09/25/2006.

Art Unit: 2627

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,818,723	Dimitri	10-1998
5,440,637	VanFleet	08-1995
6,324,608	Papa et al	11-2001
6,532,652	Nagai	03-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 21-28, and 30-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitri (US 5,818,723) in view of Papa et al (US 6,324,608), Van Fleet (US 5,440,637), and Nagai (US 6,532,652).

Claim 1; Dimitri shows a data cartridge library in Figs 1-5 including: a frame 120 (Fig. 1); a shelf system 22 (Column 3, lines 51-52), operatively attached to the frame, for supporting at least two data cartridge magazines 30 (Fig. 2; column 3, lines 62) and including at least one shelf, drive means 56 (Fig. 3; column 4, lines 18-19) that is operatively attached to the frame, which is inherently capable of receiving from a data cartridge transport device a data cartridge that contains a recording medium- and capable during operation of transferring data between a recording medium located within a data cartridge and an environment that is exterior to the drive means; a magazine transport device 70 (Column 4, lines 48-50), operatively attached to the frame, for moving a data cartridge magazine, a cartridge transport device 54 (Column 4, lines 51-54), operatively attached to the frame, for moving a data cartridge between a data cartridge magazine and the drive means.

Dimitri's library should have a power supply but does not particularly specify the power supply.

VanFleet shows data storage device including a power supply 58 (Fig. 2; column 3, line 55), operatively attached to the frame, for receiving AC power from an external environment and producing DC power in a form suitable for use by the drive means 54 (Fig. 2; column 3, line 54), and a conductor 60, operatively attached to the frame, for conveying DC power from the power supply to the drive means (Column 1, lines 49-58 and column 3, lines 53-65).

Papa et al shows a data cartridge library, wherein the conductors 421 operatively attached to the frame (Fig. 3C; column 5, lines 63-65), for conveying power from the power supply 105 to the CPU module 103 and wherein the conductor has a flat external surface and a second flat external surface that is substantially parallel to the first flat external surface.

Papa shows the conductor for conveying the power, but does not show the detailed structure of the conductor.

Nagai shows a conductor in Fig. 3 including both a first external surface (the surface above 12) and second external surface (the surface below 12) that each extend from a first end to a second end wherein the second flat external surface is parallel to the first external surface between which DC power is conveyed; the conductor further including at least a first tap 16 located between the first and second ends wherein the first tap provides electric access for the drive means to receive the DC power from the power supply conveyed along the conductor in at least one common path in a direction between the first and second ends.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to combine Dimitri, VanFleet, Nagai, and Popa et al together to form a library. The rationale is as follows:

Dimitri shows a data cartridge library, but does not mention the electric and electronic system equipped in the library. However, it is well known in the art that there is always an electric and electronic system in a library for proper operation of the library. VanFleet shows a data storage unit, which should be also recognized as a library since it stores a plurality of compact disc 22 and cassette tape 20 (Fig. 1; column 3, lines 1-4) and drives (payers). VanFleet shows a power supply 58 (Fig. 2; column 3, line 55), operatively attached to the frame, for receiving AC power from an external environment and producing DC power in a form suitable for use by the drive means 54 (Fig. 2; column 3, line 54). And it is also well known in the art that equipping such a power supply is a commonly used notorious design in the art. One of ordinary skill in the art would have been reasonably expecting that a power supply as disclosed in VanFleet in Dimitri's library for receiving AC power from an external source and producing DC power in a form suitable for use by the drive means is equipped in Dimitri's library device for being properly operated.

VanFleet's shows that a conventional wiring harness is used for connecting drives (playing devices) (Column 1, lines line 53). However, Nagai teaches that as a conventional wiring harness is concerned, it is difficult and troublesome for fabricating the terminal connection structure of a wiring harness to accurately position the connection terminal (Column 1, lines 40-43). Nagai discloses a flat wire harness with branch connection terminal and taps, and teaches that the flat wire harness with the taps can guarantee both mechanical and electric connection between each terminal and wire harness,

and can efficiently prevent displacement or offset of the connection terminals from proper position (Column 2, lines 1-6). One of ordinary skill in the art would have been motivated to replace VanFleet's wiring harness with Nagai's flat wire harness with taps in Dimitri's library for preventing unwanted displacement and offset. Nagai's wire harness has connection terminal, which is designed for inserted in a connector housing (Column 4, lines 51-54).

However, Dimitri and VanFleet does not show the connector housing. Papa et al shows a network system 100, which includes a plurality of data storage medium in modules 106 and 108 (Column 4, lines 1-7); therefore, the system 100 should also be recognized as a library. Papa et al shows a connector (also is a conductor) 421 in Fig. 3C (the corrected drawing attached to the end of the reference). The connector 421 and others are attached on the frame and used for receiving various terminals for connecting devices in the library (Column 5 line 59 to column 6, line 9). Papa further teaches that his connectors provide a method, in which removing and replacing the connection can be done without powering down the whole system (Column 5, lines 55-58). One of ordinary skill in the art would have been motivated to apply Papa et al's connector (conductor) into Dimitri, VanFleet, and Nagai's device. Papa et al's connector would function as the connector housing for receiving the terminals on Nagai's cable. Thus constructed device would also have the feature: in which modules can be removed and replaced without powering down the whole system.

Such constructed device would include a power supply, operatively attached to said frame, for receiving AC power from an external environment and producing DC power in a form suitable for use by said drive means; and a

conductor, operatively attached to said frame, said conductor comprising both a first and second flat external surface that each extend from a first end to a second end wherein said second flat external surface is parallel to said first flat external surface between which DC power is conveyed.; said conductor further comprising at least a first tap located between said first and second ends wherein said first tap provides electrical access for said drive means to receive said DC power from said power supply conveyed along said conductor in at least one common path in a direction between said first and second ends.

Claims 21 -23, a power supply for supplying power to drive means inherently supplies sufficient power at 5 volts and 12 volts with ground connection to the drive means, therefore, inherently the flat connector includes at least a first electrical pathway corresponding to a first voltage and first ground and a second electrical pathway corresponding to a second voltage and second ground; the first voltage is 12 volts and the second voltage is 5 volts; and the first and second pathway can carry sufficient power to provide power to a plurality of drives.

Claim 24, Nagai shows in Fig. 3 that the first tap 16 is capable of electrically connecting with a first plug 17.

Claim 25, Nagai shows that a second tap that is located between the first and second end of the conductor and is capable of electrically connecting with a second plug.

Claim 26, inherently the power is provided to the drive means from the conductor when the first plug cooperates with a third plug linked with the drive means, which can corresponds to a ground connection.

Claim 27, In above constructed device, the conductor is for providing power exclusively to the drive means since all the units receiving the power in Dimitri's device can be combined together and defined as drive means.

Claim 28, as described above, the first tap can provide the electrical access with the drive means, Dimitri shows that the drive means including a plurality of drives.

Claim 30, Papa et al shows in Fig. 5 that the conductor is associated with a drive bay each adapted to accommodate at least one drive; one of ordinary skill in the art would have been reasonably expecting that as the cable taught by Nagai is used in the device, the conductor would further include a second and third tap, wherein each of the taps is associated with a drive bay each adapted to accommodate at least one drive.

Claim 31, Nagai shows in Fig. 5 that the conductor further includes a connector 17 substantially disposed at the first end.

Claim 32, Nagai shows in Fig. 5 that the conductor further includes a connector 17 substantially disposed at the second end.

Claim 33, in above constructed device, the power supply is connected to the conductor at the first end.

Claim 34, the above constructed storage library including: a frame; a drive means for recording data; a power supply for providing power to at least the drive means; a fiat power conductor extending from a first end to a second end, the fiat conductor electrically connected to the power supply; at least a first tap located between the first and second ends wherein the tap is capable of providing electrical power from the power supply in at least one common path to the drive means via the fiat power conductor.

Claim 35, in above constructed device, the drive means is a disk drive.

Claim 36, in above constructed device, the fiat connector includes at least an electrical pathway for a first voltage and first ground and a second voltage and second ground.

Claim 37 in above constructed device, the first tap is capable of electrically connecting with a first plug.

Claim 38, in above constructed device, the disk drive connects with a plug connected to the first tap.

Claim 39, in above constructed device, the power conductor is fixedly disposed along the frame and wherein the power conductor provides a second tap and a third tap, each of the taps providing power to a corresponding drive bay, the drive bay capable of holding at least one drive.

Claim 40, the above constructed device includes: a plurality of drives for recording data; a power supply capable of providing power to the plurality of drives; a fiat power conductor for transmitting the power from the power supply to the drives wherein the fiat power conductor extends in length between a first end and a second end wherein a cross-section of the fiat power conductor between the first and second ends is substantially rectangular, the fiat power conductor including: at least one common power line and ground to transmit the power, a plurality of taps located between the two ends wherein the drives are electrically connected to the fiat power conductor via the taps.

2. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitri (US 5,818,723) in view of papa et al (US 6,324,608), van Fleet (US 5,440,637), and

Art Unit: 2627

Nagai (US 6,532,652) as applied to claim 1, further in view of Albrecht et al (US 6,545,865).

Dimitri does not specify the way of mounting the cable.

Albrecht et al shows a conductor 65 (Fig. 5) being is fixedly attached to a channel member 48 (Fig. 6) associated with the frame.

In Dimitri's device, there are several drives and the power is to be distributed to theses drives. One of ordinary skill in the art would have been searching a way for fixing the conductor and distributing the power to the drives. Albrecht et al shows a way for fixing the conductor and it is can be used for connecting various secondary conductors to it. One of ordinary skill in the art would have been motivated to apply the channel member taught by Albrecht et al for fixing the conductor and further for distributing the power to various units.

(10) Response to Argument

Arguments A1-A5

No argument was found.

Argument B1

Appellant's argument 1: Appellant's drive means is defined in Appellant's invention as capable of both reading and writing data as supported by this quote, "one or more drives that are each capable of writing and/or reading data to/from a recording medium in a data cartridge. Nowhere does VanFleet disclose a drive means capable of writing data on a recording medium. VanFleet fails to show a power supply for receiving AC power from an external environment and producing DC power in a form suitable for Appellant's drive means. Furthermore, VanFleet does not even have a

Art Unit: 2627

single common class and subclass as Dimitri which raises questions of whether or not Dimitri in view of VanFleet would have "prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed (see the Memorandum). And VanFleet does not teach or suggest a power supply for receiving AC power from an external environment and producing DC power in a form suitable for Appellant's drive means.

Examiner's position: (1) Appellant claims "one or more drives that are each capable of writing and/or reading data to/from a recording medium;" which does not require "capable of writing data to the recording medium; since for reading on the claim language recited by Appellant the limitation can be read as "one or more drives that are each capable of writing or reading data to/from a recording medium." (2) As pointed in the rationale for combining references presented in above rejection, one of ordinary skill in the art would have been reasonably expecting that a power supply as disclosed in VanFleet in Dimitri's library for receiving AC power from an external source and producing DC power in a form suitable for use by the drive means is equipped in Dimitri's library device for being properly operated. Appellant only discloses a power supply, does not show any particular distinguishable feature, which is suitable for reading data, writing data, or for both. And it is common knowledge and practice that a power supply in Dimitri's device should be suitable for Dimitri's device and can supply all kinds of power, which is necessary for the library.

Appellant's argument 2: Appellant argues, Papa does not show "a data cartridge library", as the Examiner asserts, but rather, shows a computer and network system.

Examiner's position: as described in rejection, Papa et al shows a network system, which includes a plurality of data storage medium in module 106 and 108 (Column 4, lines 1-7); therefore, should be recognized as a library.

Appellant's argument 3: The Examiner has leveraged Papa's elements and their respective functionality to an extent that is clearly based on conjecture.

Examiner's position: To form a combination for rejection, Examiner recited "Papa et al shows a data cartridge library, wherein the conductors 421 operatively attached to the frame (Fig. 3C; column 5, lines 63-65), for conveying power from the power supply 105 to the CPU module 103 and wherein the conductor has a flat external surface and a second flat external surface that is substantially parallel to the first flat external surface" for Papa et al's reference. The other features mentioned by Appellant in related argument are not necessary for the combination and are irrelevant.

Appellant's argument 4: Nowhere does Nagai teach or suggest an electrical power tap located between the ends of a flat conductor having a first and second flat external surface that each extend from a first end to a second end as in Applicant's invention. Nagai, at most, discloses a non-extended, folded over conductor (FIG. 7).

Examiner's position: as shown in next page the attached Nagai's drawings clearly show that the first tap is located between the first and second ends of Nagai's FFC.

Argument B2

Appellant's argument: Further, the Examiner's assertions that a power supply for supplying power to a drive means inherently supplies sufficient power at 5 volts

Art Unit: 2627

and 12 volts and that (relative to claim 23) the pathways in the conductor can carry sufficient power to provide power to a plurality of drives" most likely deviates from Papa because Papa is directed to signal transmission and other low power applications. Hence, Papa's interconnection assembly circuit board module 209 would probably short circuit.

Examiner's position: this is just Appellant's conjecture. Appellant does not provide any evidence to support this assumption. On the other hand, Papa et al clearly shows that the connectors are used for connecting power modules (Column 5, lines 63-65).

Arguments B3 and B4

Appellant's argument: The Examiner asserted "inherently the power is provided to the drive means from the conductor when the first plug cooperates with a third plug linked with the drive means, which can correspond[s] to a ground connection." The Examiner relied on speculative inherencies in all of the references to teach, suggest and motivate "*prompted a person of ordinary skill in the relevant field to combine the [prior art] elements*" in the manner claimed (the Memorandum).

Examiner's position: It is well known in the art that a circuit for drive means at least includes two terminals. As taught by Nagai, the terminals in Nagai's conductor are to be inserted into a connector housing (Column 4, lines 54-55), which is considered as a plug. No special feature has been disclosed in Appellant's application to distinguish the first and second plug. One can name at least two plugs as first and second plug, respectively.

Both claims 25 and 26 depend on claim 24, respectively. So the plugs can be assigned in different ways as desired.

Argument B6

Appellant's argument: The Examiner asserted that "In the above constructed device, the conductor is for providing power exclusively to the drive means since all the units receiving the power in Dimitri's device can be combined together and defined as drive means." Though Dimitri's devices can be combined together and defined as a drive means, there are no teachings or suggestion in any of the references that any conductor with recitations directed to Appellant's claimed invention "provides power exclusively" to a drive means.

Examiner's position: there should be a plurality of conductors in the device. Claim 1 recites a "conductor." One can pick a conductor, which is for providing electric access to the drive means, and then this conductor is for providing electric access exclusively to the drive means.

Argument B7

Appellant's argument: Dimitri's devices can be combined together and defined as a drive means, there are no teachings or suggestion in any of the references that any conductor with recitations directed to Appellant's claimed invention has a "first tap [which] can provide said electrical access with said drive means".

Examiner's position: evidently in the constructed device in the rejection above, one can pick a wire, which is connected to the drive means, which definitely can provide said electrical access with said drive means. And in Nagai's cable, each wire has at least a tap.

Art Unit: 2627

Argument B8

Appellant's argument: The Examiner is incorrect; Papa does not show a drive bay in FIG. 5, let alone a drive bay that is powered by an interconnection assembly module 209 in the absence of these recited features.

Examiner's position: Papa et al shows that the drive 103 is in the drive bay in system 100, and it is at least associated with two wires for forming a circuit. And Nagai's flat cable is used in the device. In Nagai's flat cable, each wire is equipped with a tap. Therefore, two taps are associated with the drive, as well as the drive bay. They can be named as second and third taps.

Argument B9

Appellant's argument: Though Nagai does indeed show a connector at a first end of a cable, Nagai differs from Appellant's flat conductor for at least the reasons that Nagai's conductor is not extended between a first end and a second end. In the absence of at least this recited feature, claims 31 and 32 are not obvious over the prior art of record.

Examiner's position: See Examiner's position for Appellant's Argument B1 (4).

Arguments B10 and 11

No real argument was found.

Argument B12

Appellant's argument: The Examiner asserted, "in the above constructed device, the drive means is a disk drive." The Examiner failed to identify the reference beyond the primary reference.

Art Unit: 2627

Examiner's position: Dimitri shows clearly the drive is a disk drive; for example it can be seen in column 1, lines 7-11.

Argument B13

Appellant's argument: The Examiner failed to identify the reference/s or the explicit reasons one skilled in the art "in the relevant field" would be motivated to combine the references in the way claim 36 sets forth because the Examiner failed to show or explain where a first and second voltage with at least a relative first and second ground is provided for in the prior art. Therefore, the Examiner failed to make a reasonable prima facie case of obviousness as a basis to reject claim 36.

Examiner's position: Examiner has presented proper rationale for combining the references in rejection. Appellant challenges the rationale for combination, but does not point out any particular deficiency in the rationale set forth in the rejection. Appellant's argument is incomplete. Furthermore, it is common knowledge that in an electronic system, an electric pathway is always associated with a ground as the return for forming a circuit. The obviousness rejection is proper.

Argument B14 and 15:

See Argument B 11.

Argument B16

Appellant's argument: the Examiner failed to show or explain where a power conductor is fixedly disposed along the frame, and where a drive bay capable of holding a drive is disclosed.

Examiner's position: Nagai shows in Fig. 3C (in the corrected drawings at the end of the reference) that the connector (conductor) 421 is fixedly disposed along the

Art Unit: 2627

frame and in the constructed device, and Nagai's wire with a tap is used for the supply power to the drive, as well as the drive bay.

Argument B17

The reason for combining is the same as for claim 1.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Tianjie Chen/

Tianjie Chen

Primary examiner

Conferees:

Hoa Thi Nguyen (Supervisory Patent Examiner). /HN/

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